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Sent: Tuesday, October 14, 2003 11:41 AM
To: Nichols-marvin@msha.gov
Subject: DPM Rulemaking Comments

Marvin:

Attached are the comments of the NMA in response to the Proposed Rule for Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners.

<<dpm rulemaking comments.doc>>

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Mr. Marvin Nichols
Director
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MSHA
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Dear Mr. Nichols:

These comments are submitted on behalf of the members of the National Mining Association (NMA) in response to the Notice of Proposed Rulemaking that was published on August 14, 2003 (68 FR 48668). We appreciate having the opportunity to comment on these proposed rules that implement the Settlement Agreement reached among the industry, labor and government parties on July 15, 2002.

As noted in the testimony presented on behalf of the NMA at MSHA's public hearing conducted on October 7, 2003, we support those aspects of the proposal that implement the Settlement Agreement. More specifically, we support the decision to use elemental carbon rather than total carbon as the surrogate for determining compliance with the diesel particulate matter (dpm) standard because of the reduced potential for interference from mineral dusts in the sampling and analysis process. Similarly, we support the agency's determination to base compliance determinations solely on the use of personal samples, the application of the special extension criteria to both the interim and final standards and the expanded use and application of personal protective equipment, i.e. respiratory protection, in those instances where engineering and/or administrative controls are not sufficient to achieve compliance with the standard. This final element is critical to ensure that mine operators are permitted to use all the tools available to ensure that miners are not exposed to concentrations of dpm above the permissible levels.

Beyond what was stated above, we believe that the proposed rule can and must be improved to protect miner's health. For example, we believe that miner's health can be strengthened by permitting operators to use job rotation, a recognized and accepted administrative control. MSHA's sister agency OSHA recognizes the role that job rotation can play in protecting workers and we encourage MSHA to do so as well. Further comments on this are provided below.

MSHA must acknowledge that the DPM rule is part of an evolving learning process regarding diesel exhaust. No other federal agency has attempted to set specific exposure limits for diesel exhaust because of the scientific uncertainties and EPA has concluded that such limits cannot be determined based on the science. Even the American Conference of Governmental

Industrial Hygienists withdrew their draft dpm standard.

Yet, in a proactive and cooperative spirit, NMA members agreed to the interim dpm standard as a settlement of the legal dispute in their matter, preserving their concerns as to its validity for another day. Since then, research and field testing of control technology has demonstrated that compliance is not feasible for many mines. The field testing of the sampling system during the MSHA "compliance assistance" visits demonstrated that repeated changes were needed, once again proving that the system has yet to be proven accurate or feasible as an enforcement tool.

Perhaps most importantly, Dr. Jonathan Borak of the Yale University School of Medicine reports that neither total carbon (the original dpm surrogate) nor elemental carbon (the current surrogate) are the scientific community's current suspected DPM agents (within the thousands contained in diesel exhaust) that may cause health risks.

MSHA's diesel regulation experiment may be based on praiseworthy motives, but it is contradicted by the experience of other health and safety agencies, and not supported by sound, peer-reviewed science, and transparent engineering and data analysis. On pages 48668 and 48670 of the proposal rule the agency solicits comment on "an appropriate final DPM limit." This issue is of paramount importance to NMA's members and one that we urge be dealt with through this rulemaking, rather than through a separate rulemaking as the agency proposes.

While January 2006 may seem like the distant future for regulators, for those in the mining community that must plan operations, mining methods, equipment purchases, and financial needs years in advance, it is as close as tomorrow. Today many mining companies are struggling to achieve compliance with the interim standard and it is inconceivable that they will, within the next 24 months, be able to implement controls to achieve compliance with the final standard. Not only are these companies facing operational and economic pressures, the very systems upon which they predicated their compliance strategies are providing to be unreliable and largely not feasible in the underground mining environment.

Of equal, if not greater significance, we do not believe that the agency has fulfilled its statutory obligation to validate the necessity for, nor feasibility of compliance with, the final 2006 standard. For example, the agency has failed to conduct: (1) peer-reviewed, scientifically sound studies and risk assessments of the suspected health effects potentially associated with either the interim or final limits; (2) a transparent and sound engineering and economic impact study of mining equipment and conditions at 171 impacted mines to determine if feasible control exist; (3) a study to analyze whether the 1.3 TC/EC multiplier is accurate at the final 2006 level; and (4) a transparent and reproducible analysis of the sampling and analytic methodology to determine if it meets NIOSH's 95 percent accuracy test and is therefore feasible for compliance determinations.

Simply put, we believe that administrative record before the agency on the need for and feasibility of compliance with the final 2006 limit is flawed and does not comply with the requirements of the Section 101(a)(6)(A) Mine Act which prescribes the criteria that the agency

must consider when promulgating mandatory standards. We do not believe that the record in support of the final 2006 standard meets the statutorily required tests, nor the Congressional and OMB mandates for data quality and therefore, it must be deleted.

Again, thank you for providing us this opportunity to comment.

Sincerely,

Bruce Watzman
Vice President, Safety, Health & Human Resources

Specific Comments

57.5060 (a) & (b)

Recommendation: Delete the final sentence – Delete § 57.5060(b)

Rationale: Consistent with the NMA testimony presented at the final public hearing on the proposed rule, we do not believe that the agency has justified the need for, nor validated the technologic feasibility of complying with a final exposure standard below the interim limit. This recommendation is based upon three fundamental criteria: first, the failure of the risk assessment to quantify a dose-response relationship for exposure to dpm; second, the failure of the agency to validate the feasibility of commercially- available control technology to achieve compliance with the final standard; and third, the failure of the agency to validate the precision and accuracy of the sampling and analytic methodology at the final limit.. Each of these is discussed below.

Failure of the Risk Assessment to Establish a Dose-Response Relationship for Exposure to DPM

The rulemaking record in this proceeding is replete with comments submitted by internationally recognized experts (Drs. Borak and Cohen 7/28/98, 7/21/99, 11/05/01, 10/8/03) who have highlighted the flaws inherent in MSHA's risk assessment -- the underpinning of the interim and final exposure limits. Their comments highlight the failure of the agency's risk assessment process and failure to establish a dose-response relationship for exposure to diesel particulate matter (dpm).

In their earliest submission (7/28/98) Drs. Cohen and Borak identified the critical failures of MSHA's risk assessment, namely, that the proposed rule was premised upon "a series of incomplete arguments, a literature review that lacks critical rigor, and a risk assessment that is only qualitative (rather than quantitative)." Regrettably, these flaws remain unresolved as Dr. Borak concludes in his most recent submission (10/8/03) that, "the scientific database is insufficient to sustain a meaningful quantitative risk assessment (QRA) for DPM." Most importantly, he goes on to conclude:

> "… if data insufficiencies lead to an inability to perform scientifically correct QRA, then there is no scientific basis for the specific exposure levels that lie at the heart of the current proposal. "

Importantly, Dr. Borak is not alone in recognizing that the current scientific database is insufficient to conduct a meaningful quantitative risk assessment. This same view was echoed by other experts, most notably the Environmental Protection Agency whose *Health Assessment Document for Diesel Engine Exhaust* shared the views that we do not today have a sufficient scientific basis upon which to establish a unit risk exposure limit for dpm. Following an exhaustive study the EPA concluded:

> "Because of uncertainty in the available exposure-response data, a cancer unit

risk/cancer potency for diesel exhaust has not been derived."

The EPA went on to conclude:

> "Information from the available human studies is inadequate for a definitive evaluation of possible noncancer health effects from chronic exposure to diesel exhaust."

While it is generally recognized that dpm does, in certain populations and at certain concentrations, result in transient reversible health effects, we believe the interim standard is more than adequate to protect miners against these, if they are encountered in the mining environment. As such, we urge the agency to delete, in this rulemaking, the final standard.

The Lack of Commercially Available, Technologically Feasible After-Treatment Control Technology

Beyond the failure of the risk assessment to establish the basis for a lower final level, we believe the testimony presented by numerous industry witnesses has highlighted that technologically feasible controls do not exist to achieve compliance with the final 160 microgram limit (see hearing testimony of Stillwater Mining, Kennecott Greens Creek, Carmuse).

Regrettably, the tests conducted to date at numerous mines throughout the nation rather than certifying the availability of and utility of such technology have done just the opposite. Repeated equipment failures, the onset of unexpected hazardous conditions due to the use of certain filter technology and the inability of equipment manufacturers to provide technologic solutions for the multitude of mining equipment applications all document the rules failure to comply with the requirements of § 101(a)(6)(A) of the Mine Act, namely, "the feasibility of the standard." This result was confirmed by H. John Head (see 10/14/03 submission of MARG, NMA and NSSGA) whose review of the technical and economic feasibility of the dpm rule concluded:

> "The technical feasibility of mines to achieve the EC limits – both interim and final – has not been demonstrated by MSHA, nor by the latest scientific research and evidence, such as the extensive field tests conducted by a partnership of NIOSH, industry and labor, in which MSHA participated…"

While the health and safety of miners are the paramount considerations of the Act, the Secretary must also consider the feasibility of a proposed standard as well as experience gained under the Mine Act and other safety and health laws (most obviously, the OSHA statute).

With respect to technological feasibility, the courts have generally found that safety and health standards can be "technology forcing." This however is tempered by a burden imposed upon the agency to prove that compliance is feasible. In *American Iron and Steel Institute v. OSHA* 939 F. 2d 975 (D.C. Cir 1991) the Court imposed a burden upon the regulator, namely,

> *To establish technological feasibility, OSHA, after consulting the "best available evidence," must prove "a reasonable possibility that the typical firm will be able to develop and install engineering and work control practices that can meet the [standard] in most of its operations." ... OSHA can meet this burden by "pointing to technology that is either already is use or has been conceived and is reasonable capable of experimental refinement and distribution with the standard's deadline"...*

MSHA's feasibility analysis is flawed and fails to meet the test imposed by the Court in the *AISI* decision. Clearly, the agency's feasibility analysis falls far short of its obligation to identify "technology that is either already in use or has been conceived and is reasonably capable of experimental refinement and distribution within the standard's deadline (see *AFL-CIO v. OSHA*. 965 F. 2d 962 (11th Cir. 1992)

Of equal significance, the National Institute for Occupational Safety and Health, our Nation's principal mine safety and health research organization, in its most recent submission on the availability of technologically feasible after-treatment systems to achieve compliance with the **interim standard** concluded that:

> "… the successful application of these systems is predicated on solving technical and operational issues associated with the circumstances unique to each mine."

NIOSH's silence on the technological feasibility of compliance with the final standard underscores our belief that MSHA has failed meet the threshold tests delineated in the *ANSI* and *AFL-CIO* decisions.

<u>The Failure to Validate the Accuracy and Precision of the Sampling and Analytic Methodology (NIOSH 5040) for the Final Limit</u>

While the settlement agreement defines the scope and methodology for MSHA to conduct sampling for compliance with the interim limit, significant questions remain regarding the sensitivity of the sampling and analytic methodology as it relates to the final limit. As noted in our testimony of 7 October, we remain concerned that the sensitivity of the sampling device and analytic process are not sufficient to meet NIOSH's 95 percent accuracy criteria. These concerns are reinforced by the punch-to-punch variability analysis conducted by industry experts (see comments of NMA, MARG and NSSGA, 10-14-03) who concluded:

> "… there is an apparent failure to demonstrate feasibility of the proposed method despite the Agency's two databases, which raise significant concerns about the methods proposed in the Final Rule."

To the best of our knowledge neither MSHA nor NIOSH has conducted a study of , nor submitted for peer-review the results of, an analysis of the sensitivity of the sampler and analytic method at the 2006 160 microgram limit. The failure to do so raises questions regarding the

agency's compliance with the feasibility requirements contained in 101(a)(6)(A) of the Mine Act.

The question of the feasibility of a particular sampling or monitoring technique has been considered by the Courts. In *State of Ohio et. al. v. U.S. Environmental Protection Agency* 784 F. 2nd 224 (6th Cir. 1986) the Court upheld the petitioners challenge of an EPA modeling (sampling) technique. In so doing the Court ruled:

> We conclude that EPA acted arbitrarily … to set limits ... without adequately validating, monitoring or testing its reliability or its trustworthiness … and we order further action to test and validate the model as an adequate technique for these plants.

The Court went on to conclude:

> *"... in the absence of a record supporting the trustworthiness of agency decision-making tools as they were applied, the court could not uphold these tools' application."*

Section 101(a)(6)(A) imposes upon MSHA an obligation to consider, when proposing a mandatory standard, "the feasibility of the standards." In this instance feasibility comprises many elements – the feasibility of attaining compliance with the standard, the feasibility of technology to comply and the feasibility to accurately monitor for compliance. Each of these elements must be considered and documented by the agency. MSHA has a statutory and legal obligation to do so and as the Court held in *State of Ohio*, the failure to do so is arbitrary and invalidates the use of such a tool.

57.5060 (e)

Recommendation: Delete in its entirety

Rationale: Unlike its sister agency OSHA, MSHA has in this rulemaking advocated a bifurcated administrative control scheme that denies mine operators the use of, and miners the protections from, an recognized protective control, namely, rotation of employees.

While MSHA's rationale for this decision is on its face meritorious, it lacks scientific justification. Employee rotation has long been recognized as an accepted administrative control, even in cases where exposure to carcinogenic substances have been encountered. For example, the Occupational Safety and Health Administration regulations at 29 CFR 1910.1025 (e)(5)(i), (ii) and (iii) provide the criteria that an employer must follow when implementing a job rotation schedule to reduce employee exposure to lead. Similarly, OSHA regulations at 29 CFR 1910.1018 (g)(1)(ii) specify the procedures that employers must follow when engineering controls are insufficient to protect workers from exposure to arsenic. Interestingly, these regulations specify that "rotation is not required as a control strategy before respiratory protection is instituted."

There is, in our estimation, no scientific basis for denying miners the protections that rotation provides and we urge that this provision be deleted from the final standard.

57.5062

Recommendation: Delete in its entirety

Rationale: Consistent with the testimony presented by NMA at the 7 October hearing, we believe that several of the changes contained in the proposed rule negate the need for this section. If adopted, as proposed, the regulations transformation to a permissible exposure limit based standard, combined with the agency's utilization of the traditional hierarchy of controls counteract the necessity for a diesel control plan.